

# INFORMATION LETTER

Not for  
Publication

NATIONAL CANNERS ASSOCIATION

For Members  
Only

No. 1551

Washington, D. C.

August 26, 1955

## Changes in Food Consumption over the Past 100 Years

Changes in the food pattern of the American people during the past century are analyzed by the Agricultural Marketing Service of USDA in the August issue of *The National Food Situation*. Major developments include many improvements in the national diet, a 10 percent decline in the food energy content, and solutions to farm, marketing, and merchandising problems.

Future changes in food patterns are expected to offer opportunities for solving major farm problems and for providing marketing services which are needed by consumers, whose rising incomes can achieve better and easier living by greater use of the ready-to-eat foods.

While the average city family in the 1850's spent about one-half of its income for food, the average expenditure for food today is one-fourth of the family income. The 1850 annual per capita consumption included about 180 pounds of meats, 13 pounds of lard, 15 pounds of butter, 205 pounds of wheat flour, and 30 pounds of sugar, with consumption of pork and fish particularly high. Molasses, syrup and sorghum were in great demand as common sweetenings. No reference is made in the report to fresh fruits and vegetables.

Today's 25 percent of family income spent for food goes for 153 pounds of meat (market weight), 10 pounds of lard, 9 pounds of butter, 124 pounds of wheat flour, and 95 pounds of sugar, with current consumption of potatoes, sweet potatoes and the cereal group greatly below the 1850 rates.

There is less difference today than there was in the mid-19th century between what the rich and poor families are eating. A hundred years ago, the poorer Southerners consumed mostly cornbread, bacon, coffee and greens whereas the more well-to-do Southern families had fish, meat and fowl in quantity along with a variety of fresh fruits and vegetables and imported delicacies. Such variations were not recorded among the Northern families, whose homes were located nearer ports and railroads, mak-

ing all types of foods readily available to them.

It is believed that about one-third of the consumer income went for food during the 50 years prior to World War I, although this cannot be estimated exactly. The U. S. Department of Agriculture began to develop and publish per capita consumption figures only in 1909.

Since that year there has been a marked increase in consumption of

(Please turn to page 296)

## N.C.A. Cited by FCDA

A public service award has been made to the N.C.A. by the Federal Civil Defense Administration "for its contribution to the national defense through participation in the Civil Defense Atomic Test Program, AEC Nevada Test Site, Spring, 1955." The award was in the form of an engraved scroll signed by Val Peterson, FCDA Administrator, and Harold L. Goodwin, Director, Atomic Test Operations.

Accompanying the scroll, which was delivered to the Association offices August 24, was a letter from Governor Peterson to Executive Secretary Carlos Campbell, which stated in part: "I feel that special recognition is due the Association for its pioneering efforts and its direction of the industry sponsored part of our food test program."

## Benson Decries Parity Ratio as Sole Measure of Farm Prosperity

Secretary Benson stated this week that the parity ratio, which measures prices received by farmers against those paid for goods and services, is cited by people seeking to create a "statistical depression" in agriculture.

However, he said, "I have never believed that farmers themselves pay as much attention to the various statistical yardsticks as do some of their self-appointed spokesmen."

The Secretary said that the parity ratio was 88 in 1935, 92 in 1936, and 93 in 1937. "In each of those three years it was from four to seven points higher than it is today. That should have meant relative prosperity for farmers from 1935 through 1937, if we accept the doctrine that this parity

## Benson-Campbell Interviews Recorded for Use on Radio

Two interviews between Secretary Benson and N.C.A. Executive Secretary Carlos Campbell were recorded August 22, and will be distributed to women food editors, farm food editors, and consumer marketing specialists of the USDA Extension Service. The project is part of the continuing N.C.A. Consumer and Trade Relations program.

The dialogs dealt with the question of how the growing American population will be fed in the face of a decreasing number of farmers. Mr. Benson pointed out that this will be achieved through greater production per acre and the technological developments and wider use of scientific knowledge. The interviews brought out that food processing of perishables keeps pace with farm production, and that the consumer demand for good foods plus higher purchasing power have resulted in increased demand for canned and other processed foods, resulting in more food processing in the canneries and less in family kitchens.

The interviews stressed also the teamwork between farmers, agricultural research workers, and processors, and indicated that the housewife may expect continued improvement in the quality of processed foods through a continuation of such teamwork.

thermometer tells all there is to know about agriculture's well-being."

Secretary Benson declared:

"The individual farmer determines whether he has had a good year or a bad one by what he has left in his pocket after the crops and livestock are marketed and his production expenses and fixed costs have been paid. By this test—the measure of net per capita income—farmers as a whole have been moving forward steadily on the economic front almost without interruption. Even in 1954, with some farm prices declining, per capita income of farmers increased over the preceding year, while per capita income of nonfarm people moved the other way."

## Changes in Food Consumption

(Concluded from page 295)

such foods as dairy products (excluding butter), eggs, meats, poultry and fish, as well as increases in citrus fruits and tomatoes, leafy, green and yellow vegetables, sugars and syrups, and coffee, tea and cocoa.

There has been relatively little change during the past 50 years in total poundage of food consumed per person, calculated on an equivalent retail weight basis. The improved quality of foods has been reflected partially in food prices. Improvements in sanitation, high pressure cookery, freezing, enrichment of food value, pasteurization, and other modern techniques all have contributed to the higher quality of our food supply.

### FOOD ENERGY CONTENT DECREASE

There are several reasons for the 10 percent decrease in food energy content of the per capita food supply since 1909. The decline in protein intake resulting from the considerable decline in cereal food consumption has been about half offset by increases in consumption of livestock products.

A larger proportion of our calories is coming from a higher consumption of salad and cooking oils and from so-called invisible fats in enriched milk and dairy products and from the meat, fish and poultry group. A 50 percent reduction in the consumption of potatoes and cereal products has reduced the daily intake of carbohydrates from this group although consumers are getting more from sugars and quick-energy foods, popular now.

The 1954 average supply of calcium is 20 percent higher than the 1909 figure, and more Vitamins A and C are consumed today because of the shift toward citrus, tomatoes, and leafy, green and yellow vegetables. The average iron, thiamin, riboflavin and niacin content of our diets is higher despite reduced consumption of cereal products because of the enrichment of white bread and flour and some other cereal products.

### FACTORS AFFECTING CHANGES

Factors which have affected the variations in the nation's food pattern include:

- (1) Before World War I 1 out of 3 people lived on farms and had access to fresh fruits and vegetables and meats whereas now about 1 out of 7 Americans live on farms.
- (2) The increased employment of married women, fewer servants and

improved food-handling facilities in the home.

- (3) Improved transportation, communication and storage.
- (4) Higher levels of income.
- (5) Modern merchandising and sales promotion techniques.
- (6) Changes in the nation's production pattern.
- (7) Technological changes in agricultural production and marketing.
- (8) Decreased home production.

Much of our food preparation has moved from homes to factories, and some meal preparation has moved to the restaurant kitchen—5 percent before World War I and 16 to 18 percent now. Nearly four times as much processed flour, sugar, fruits and vegetables are purchased now as in the 1909 period.

According to a recent study by the USDA Bureau of Human Nutrition and Home Economics, if the housewife today buys processed ready-to-serve foods she will save 71 percent of her meal preparation time—1.6 hours compared with 5.5 hours per day—at a 36 percent greater cost.

Miss Marguerite C. Burk, author of the report on changing food patterns, states that because of offsetting reductions in handling costs, she has not been able to find out whether or not prepackaging really costs consumers more.

All of these changes point up the fact that American consumers are buying additional marketing services with their foods. These are largely hidden but costly services which are nearly indispensable to the food patterns that have been developed for our contemporary way of living.

The report points out, however, some factors which hold back changes in food patterns. Two of the strongest are habit and ignorance. Even with the high average level of post-war prosperity, insufficient purchasing power keeps some families from altering their food patterns as much as they would like. Other factors which temporarily obstruct shifts in food consumption patterns are rigidities in food production and marketing structures.

### EXPECTED CHANGES IN 10-15 YEARS

Assuming that the economy will continue to operate at a high level of production and consumption, under peacetime conditions, the report indicates the safest forecast is that past trends in food consumption will continue.

Specifically are listed the downtrend in consumption of potatoes and cereal

products and the uptrend in food processing and other marketing services. The rate of the changes during the next 10-15 years depends upon how fast scientists develop the knowledge of nutrition and how fast the consuming public acquires knowledge and understanding of the significance of nutrition and of food habits to their health.

Miss Burk states that she sees no reason why our food pattern should not be altered rather sharply in the next decade if nutritionists and physiologists turn up sure proof of the serious effects of obesity on health. She points out that this might necessitate comparatively drastic changes in the demand for and the production of vegetable and animal fats and of carbohydrates. However, she hesitates to guess which foods will be affected most in the rapid changes she anticipates.

### AREAS OF INADEQUATE KNOWLEDGE

The report concludes by listing the following areas of inadequate knowledge about American food patterns:

- (1) Food waste and nutrition losses in marketing channels, food preparation and consumption.
- (2) Differences in consumption within families or within consumer units. (The report points out, for example, that, although most of us have ideas about how much teen age boys eat, no one knows precisely.)
- (3) Patterns of institutional eating and their effects on over-all food consumption patterns.
- (4) How to influence food habits.
- (5) Consumer reactions to price changes, especially the effect of such factors as income, quality, supply, and preference.

There is certainty that the food patterns of the American people will continue to change, and probably will continue to improve according to nutritional standards. The exact directions and extent of change is the responsibility of nutritionists and educators to a considerable degree.

### Outline on Fig Canning

The N.C.A. Berkeley Research Laboratory has prepared a four-page memorandum entitled *The Canning of Figs in California*. Topics covered are varieties, canning procedure, syrup grades, processing, styles of pack, and pack statistics. Copies may be obtained from the N.C.A. Research Laboratories, 1950 Sixth St., Berkeley 10, Calif.

## C. A. Greenleaf Addresses Group of Chemistry Teachers

An address on "Scientific Research and The Canning Industry" was presented August 16 at the annual summer conference of the New England Association of Chemistry Teachers by C. A. Greenleaf, Associate Director of the N.C.A. Washington Laboratory.

The N.E.A.C.T. consists of both high school and college and university teachers. Its annual summer conference lasts a week and includes talks by speakers from various branches of industry as well as those dealing with instruction in chemistry.

Mr. Greenleaf reviewed some of the more striking applications of scientific research in the canning industry, and finished with a series of slides covering the atomic explosion tests on canned foods in "Operation Cue" in Nevada last May.

## 1955 Cranberry Production

Cranberry production for 1955 is forecast at 1,111,700 barrels, 9 percent above the 1954 crop and only 8 percent below the record 1953 crop, on the basis of August 15 conditions, according to the Crop Reporting Board of USDA.

Production in each state is above last year, except Washington, and each state is above average.

State	10-year ave. 1914-53	1954	1955 Prelim- inary	Per- cent change from 1954
(barrels)				
Mass.....	510,700	590,000	610,000	+3
N. J.....	82,200	87,000	96,000	+10
Wis.....	185,700	250,000	315,000	+26
Wash.....	43,330	61,500	58,200	-5
Oregon....	16,910	30,000	32,500	+8
Total five states....	838,840	1,018,500	1,111,700	+9

## Canned Baby Food Stocks

Details of the canned baby food supply, stock and shipment situation are reported by the N.C.A. Division of Statistics as follows:

	1954 (thousands of dozens)	1955
Canner stocks, Jan. 1.....	65,305	74,083
Pack, Jan.-July.....	79,085	76,714
Supply.....	144,390	150,797
Canner stocks, Aug. 1.....	54,095	59,089
Canner shipments during July..	13,425	13,553
Canner shipments, Jan.-July..	90,295	91,711

## Stocks of Canned Foods on Aug. 1 and Season Shipments

Reports on canners' stocks and shipments of canned apples, applesauce, green lima beans, and corn have been issued by the N.C.A. Division of Statistics, and detailed reports covering the August 1 stock and shipment situation have been mailed to all packers of these products.

### CORN

The more than 2 million actual cases of canned sweet corn shipped by canners in July set an all-time record for the month. Total shipments for the year (August 1-July 31) also were an all-time high.

The previous high for July was recorded in 1950, when 1,827,000 actual cases were shipped. The previous high in annual shipments occurred during the marketing year 1952-53 with 36.3 million actual cases shipped.

The shipments this July are about one-third greater than shipments in July of the two previous years and 10 percent above the previous July high of 1950. The 36.6 million actual cases shipped this year is 9 percent above last year's annual shipments.

Carryover stocks of 5.3 million actual cases this August 1 were only 3 percent higher than the carryover on August 1 last year, despite a supply at the beginning of the year that

was 3.3 million cases larger than at the start of the 1953-54 season.

Canners' carryover stocks of canned sweet corn in 1939 and 1940 were greater than this year's carryover.

Golden corn showed relatively a much better rate of shipment this year than did white corn. During the year, shipments of golden sweet corn by canners amounted to 89 percent of the total supply. For white corn, the year's shipments amounted to 76 percent of the total supply. In comparing shipments of cream style and whole kernel golden corn, there was little difference, although cream style has a slight edge; but in white corn, cream style showed a considerably better relative shipment rate than the whole kernel. Stocks of cream style white on hand August 1 represented 20.8 percent of the total supply, while stocks of whole kernel white were equal to 28.7 percent of the year's supply.

Stocks of No. 10 corn on August 1 were in about the same relative position as a year ago. This year the No. 10 stocks represented 13.0 percent of the total stocks held by canners, compared with 13.4 percent a year ago. Usually, No. 10 carryover stocks are the equivalent of 6 to 8 percent of the total supply.

	Carry-over month	Case basis	Total Supply		Canners' Stocks		Season Shipments	
			1954	1955	Aug. 1 1954	Aug. 1 1955	1954	1955
			(thousands of cases)					
Apples.....	Aug.	6/10	3,120	4,857	147	*1,038	2,973	3,818
Applesauce.....	Aug.	actual	11,384	15,835	541	*2,424	10,843	13,411
Lima beans.....	Aug.	actual	3,604	4,411	459	*970	3,145	3,441
Corn.....	Aug.	actual	38,562	41,906	5,145	*5,322	33,417	36,585

\* Carryover from 1954 pack into 1955-56 season.

\* Carryover from 1954 pack into 1955-56 season.

## 1954-55 Citrus Juice Packs

The 1954-55 pack of canned single-strength citrus juices in Florida totaled about 32.7 million cases, 18 percent smaller than the 1953-54 pack, according to the Agricultural Marketing Service of USDA.

Production of the completed packs are reported by USDA as follows:

Orange, 16.5 million cases, down 7 percent; grapefruit, 10.8 million cases, down 27 percent; blend, 5.0 million cases, down 22 percent; and tangerine, 0.4 million cases, down 46 percent.

In addition, 1,550,400 gallons of canned concentrated orange juice were made, 17 percent more than in 1953-54.

Total production of canned citrus juices in 1954-55, including the California pack, probably will be 10 per-

cent under 1953-54, according to USDA.

USDA reports the packs of frozen citrus juices in Florida also were below last season, except for tangerine. The 1954-55 production of frozen tangerine juice, at 872,000 gallons, is up 97 percent over 1953-54.

The packs of other frozen concentrates in Florida are reported by USDA as follows:

Orange, 64.9 million gallons (642 million pounds), down 1 percent; grapefruit, 1.2 million gallons, down 26 percent; and blended orange and grapefruit, 546,000 gallons, down 38 percent.

In California, the report says, output this year may exceed the 1954 pack of 1,447,000 gallons.



## Granular-type Insecticides Useful in Corn Borer Control

Granular-type insecticides have shown promise for controlling the European corn borer in cooperative USDA-state experiments at Ankeny, Iowa, it is reported by the U. S. Department of Agriculture.

Results of two-year tests by scientists of the USDA and the Iowa Agricultural Experiment Station indicate that DDT, EPN, and heptachlor used in granular form give as good, or possibly better, borer control than when used in conventional emulsion sprays. Furthermore, they leave much less insecticide on the corn plants.

The experiments at Ankeny showed that applications of the new, granular insecticides leave 100 to 200 times less residue on the leaves of corn plants than emulsion sprays, and about half as much residue where the leaves join the stalks. Unlike sprayed materials, the granular toxicants do not cling to leaf surfaces, but tend to slide down into the leaf whorls and to the junctures of leaf and stalk, where young borers do most of their feeding.

The scientists feel that, if field experiments continue to show excellent borer control with granular insecticides, new equipment for applying them should be developed.

## Everywoman's Magazine

The August issue of *Everywoman's* magazine announces on the cover "12 Soups + 12 Sandwiches = 144 Refreshing Summer Lunch Combinations." The section, by Prudence Dorn, food editor, is headed "A Soup and Sandwich Lunch is tops for a hot August day."

All but two of the soup recipes use canned soup, some simply having a special garnish or seasoning added, while in others canned soup is used as an ingredient. Soups included are Madrilene, chicken gumbo, pepper-pot, chicken noodle, chicken with rice, consommé, pea, mushroom, onion, cream of celery, and tomato in four recipes. Canned minced clams also were used in a soup recipe.

The 12 sandwiches, most of which use canned foods, are photographed in color surrounding a tureen of minted Madrilene consommé. Canned foods used in the sandwiches are tuna, corned beef hash, pimientos, ripe olives, chili sauce, ham, Boston brown bread, baked beans, catsup, luncheon meat, chopped ham, and chicken.

## AMA Warns of Chlordane Poisoning

The Committee on Pesticides of the American Medical Association has warned of the danger of poisoning by chlordane, an agricultural and household insecticide.

Deaths following chlordane poisoning were reported in the current *Journal of the A.M.A.* as part of a discussion of the possible hazards of using the insecticide. Poisoning may be caused by repeated skin contact, breathing of the fumes, or accidentally swallowing the chemical. Chlordane appears to be absorbed more rapidly than similar insecticides, the report said. The report gave details of 15 cases of chlordane poisoning, 2 of which resulted in deaths.

Symptoms of chlordane poisoning include irritability, labored breathing, muscle tremors, convulsions, and deep depression. Others are nausea, vomiting, diarrhea, abdominal pain, blurred vision, cough, confusion, and delirium.

Treatment, like that for intoxication from other chlorinated hydrocarbons, consists of removal of the poison from the skin or stomach, followed by a salty purge and administration of sedatives. In case of skin contact, the contaminated area should be washed immediately with soap and water. If chlordane is swallowed, washing of the stomach, followed by

administration of epsom salts or other salty cathartics is recommended. Since milk, oil purgatives and other fatty or oily substances speed absorption of the poison, they should be avoided.

An accompanying *Journal* editorial outlined a five-point program of the new A.M.A. Committee on Toxicology to combat accidental poisoning.

The committee is working to (1) encourage informative labeling and safe packaging, (2) stimulate laboratory and clinical research for antidotes, (3) standardize technical nomenclature, (4) develop standards for evaluating hazardous substances, and (5) sponsor a sustained educational program.

Tolerances for residues of chlordane at 0.3 parts per million under the Miller pesticide amendment have been promulgated for some 49 fruits and vegetables, as well as cottonseed, forage crops, grains, meat and sugarcane. With the insecticide in such general use, the warning issued by the A.M.A. is reviewed here to encourage close adherence to label instructions when applications are being made.

The value of adherence to pesticide label instructions is twofold in that the directions have been designed to minimize the hazard to persons handling or applying the chemical and to insure that residues on food products will be below tolerance amounts at time of harvest.

## TABLE OF CONTENTS

	PAGE		PAGE
<b>Consumer and Trade Relations</b>		<b>Publicity</b>	
Benson-Campbell interviews recorded for use on radio.....	295	N.C.A. cited by FCDA.....	295
		<i>Everywoman's</i> magazine.....	298
<b>Insecticides</b>		<b>Raw Products</b>	
AMA warns of chlordane poisoning.....	298	Granular-type insecticides useful in corn borer control.....	298
<b>Personnel</b>		<b>Statistics</b>	
C. A. Greenleaf addresses group of chemistry teachers.....	297	Changes in food consumption over the past 100 years.....	295
<b>Processing</b>		Benson decries parity ratio as sole measure of farm prosperity.....	295
Outline on fig canning.....	296	1955 cranberry production.....	297
		Canned baby food stocks.....	297
		Stocks of canned foods on Aug. 1 and season shipments.....	297
		1954-55 citrus juice packs.....	297